

## REMARKS

### Summary

Claims 1-3 were pending, and all of the claims were rejected in the Office Action. Claim 1 has been amended to improve the grammar. New Claims 4-6 have been presented to further claim subject matter to which the Applicant is entitled. No new matter has been introduced. The specification has been amended to include reference to a previously asserted priority claim. The Applicant notes that although this priority claim is acknowledged in the filing receipt and PAIR, it was not acknowledged in the Office Action. The Applicant respectfully requests that acknowledgement of priority under 35 U.S.C. § 119 be made in the next Office Action. The Applicant has carefully considered the references and the reasons set forth by the Examiner and respectfully traverses the rejections on the basis that a *prima facie* case has not been made out.

### Rejection of Claims

#### 35 U.S.C. § 102 (b)

Claims 1 and 2 were rejected under 35 U.S.C. § 102(b) as being anticipated by Andricacos et al. (US 5,825,609; "Andricacos"). Claim 1 has been amended solely to improve the grammar, and not for any reason related to patentability.

Claim 1 recites, *inter alia*, an insulative substrate having a via hole filled with a conductive material, wherein the lower electrode, the dielectric layer, and the upper electrode are successively deposited in order on the insulative substrate and the dielectric layer is shaped like a ring to surround the via hole.

Andriacacos teaches a substrate 12 having an overlaid dielectric layer 1 in which a metal-filled via 2 is formed. A first electrode 5, 6, 7 is formed in contact with the metal-filled via through another layer 16. A second dielectric layer 9 is deposited on top of the first electrode, and a top electrode 20 is formed on top of the second dielectric layer 9. The dielectric layer 1 is deposited on the substrate 12, and surrounds the via 2, and both of these structures are formed prior to the formation of the first electrode, which the Examiner associates with the lower electrode in the present Claim 1. *Arguendo*, adopting this association, Andriacacos teaches a dielectric layer 1, and then the lower electrode layer being deposited on the substrate 12. This is not the sequence of

deposition of layers recited in Claim 1, and thus the reference does not teach all of the elements of Claim 1 and the arrangement thereof, and a *prima facie* case of anticipation cannot be made out.

Alternatively, the Examiner may have been suggesting that the second dielectric layer 9 of the reference is of relevance. In this situation, the second dielectric layer 9 may be seen to cover the lower electrode entirely (Andriacacos, Fig. 14), and the apparent ring shape shown in Fig. 15a of the reference is understood to be merely its appearance in a cross sectional view at 15-15 in Fig. 14, and not the actual continuous surface which is taught in the reference. As such, the reference does not teach the limitation of the arrangement of Claim 1 that the dielectric is shaped like a ring to surround the via. In this circumstance, a *prima facie* case of anticipation has not been made out as not all of the limitations of Claim 1 are found in the reference.

Claims 2 and 3, being dependent on an allowable claim are allowable, without more.

### **35 U.S.C. §103(a)**

Claim 3 was rejected under 35 U.S.C. §103(a) as being unpatentable over Andriacacos in view of Hagerup (US 6,477,054; "Hagerup"). Hagerup was not cited to remedy the deficiencies in the teachings of Andriacacos which have been mentioned previously, and as such, even if it were proper to combine references, which the Applicant does not concede, the combination of the references would fail to teach all of the elements, the arrangement of the elements and the limitations thereof found in Claim 3, and a *prima facie* case of obviousness cannot be made out.

Thus, Claim 3 is independently patentable, as well as being allowable as a claim dependent on, and further limiting, an allowable base claim.

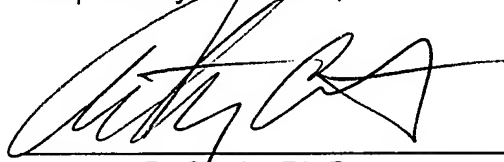
### **Conclusion**

Claims 1-3 were pending; Claim 1 was amended. Claims 4-6 have been introduced; Claims 1-6 are now pending.

For at least the reasons presented above, the Applicant respectfully submits that all of the pending claims are in condition for allowance and seeks an early allowance thereof.

If for any reason the Examiner is unable to allow the application in the next Office Action and believes that a telephone interview would be helpful to resolve any remaining issues, she is respectfully requested to contact the undersigned.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Anthony P. Curtis', written over a horizontal line.

Anthony P. Curtis, Ph.D.  
Registration No. 46,193  
Agent for Applicant

BRINKS HOFER GILSON & LIONE  
P.O. BOX 10395  
CHICAGO, ILLINOIS 60610  
(312) 321-4200